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ABSTRACT
Following a discussion of the major trends in higher education, the response of academic libraries to these developments is considered, with particular attention to developments related to undergraduate libraries, community college libraries, learning resources centers, the independent study movement, the library-college movement and library programs in experimental colleges. The base line for this selective, evaluative and interpretive review was provided by a bibliography based on a literature search conducted by the ERIC Clearinghouse for Library and Information Sciences staff at the University of Minnesota. Emphasis is on publications since 1965. A major impression received from reviewing the literature on library services for undergraduate education is that a great deal more is said about what ought to be done than about what is actually being done. A second and related general impression is that the library response to new developments in undergraduate education is disappointing because so little of a truly innovative nature is occurring in undergraduate education itself. Exceptions to these generalizations are noted. The text is followed by a list of references. (NH)

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REVIEW SERIES NUMBER 2

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REVIEW SERIES NUMBER 2

THE ACADEMIC LIBRARY RESPONSE TO NEW DIRECTIONS IN UNDERGRADUATE EDUCATION

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THE ACADEMIC LIBRARY RESPONSE TO NEW DIRECTIONS IN UNDERGRADUATE EDUCATION

Scope and Method

This review attempts to assess the response of academic libraries to new methods and new directions in undergraduate education. Following a discussion of the major trends in higher education, the response of academic libraries to these developments is considered, with particular attention to developments related to undergraduate libraries, community college libraries, learning resources centers, the independent study movement, the library-college movement and library programs in experimental colleges.

Certain topics were excluded from consideration because they have already received more than adequate attention. Thus, college and university library buildings are referred to only in connection with the trend toward the learning resources or media center concept of librarianship. Cooperation among libraries is touched upon only as an instance of a method college libraries are using to cope with financial and population pressures. And use of the college library by residents of the community is considered only to the extent that it is accepted as a special obligation of the community college.

Other topics are excluded by definition. Thus we are not concerned with new developments in libraries which are not related to changes in education. (Automation of circulation or acquisition activities, for example, is considered only to the extent that it is seen, like cooperation, as a move toward efficiency in response to pressures.) Nor are we concerned with the responses of academic libraries to developments outside the sphere of undergraduate education, except as these affect service to undergraduates, as for example where growth of research collections has led to separate undergraduate libraries. And finally, we are not concerned with those new methods and directions in undergraduate education which seem to have had as yet no response from academic libraries, except as such lack of response seems worthy of comment.

The literature on library services for undergraduate education is prolific but it is endlessly repetitive and much of it is trivial. This review, therefore, is frankly selective, evaluative, and interpretive; nothing approaching "coverage," even of the most recent output, is attempted (1). The organization of the discussion, the choice of books and articles for consideration, and the comments on their significance necessarily reflect the author's perspective on developments in this aspect of academic librarianship. The reader should understand that a review produced by another writer, particularly one with a more sanguine outlook, would probably differ from this in both scope and emphasis.

The base line for the review was provided by a bibliography based on a literature search conducted by the staff of the ERIC Clearinghouse for Library and Information Sciences at the University of Minnesota. This list, which emphasized publications since 1965, was augmented in the customary ways: through following up on items listed in the bibliographies included in the original list, through a further literature search at Wayne State University,* through items contained in my own files, and, as usual, through items brought to light as a result of that blessed phenomenon, serendipity.

Major Trends Affecting Higher Education

A series of catch phrases, overworked but handy, can be used to indicate the major trends in higher education which are in large measure determining the "new methods and new directions in undergraduate education."

First, the student "population explosion" means that colleges and universities must adjust to the pressure of sheer numbers. The increase in enrollments has been so widely reported that no documentation is necessary here.

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*Ruth Kauffman, a graduate student in the Department of Library Science, carried out this work. I am most grateful for her valuable assistance.

Second, the effect of the "inflationary spiral" on the cost of education is also so familiar that it needs no comment.

Third, the increasing, acceptance of the goal of "college for all" results in an increasingly heterogeneous student body while the tendency to regard college education as an obligatory stage in the preparation for almost every occupation produces an endless proliferation of curricular programs (2).

Fourth, the "professionalization of the disciplines" in an increasingly "meritocratic society" has greatly increased the power of the graduate and professional schools to set the standards which affect what goes on at all levels of education (3).

Fifth, the "impact of federal funding" has been to give enormously increased priority to the goals and policies of the government or of society-at-large at the expense of those determined locally.

Sixth, "community involvement" spells new recognition of the pressures and constraints which are being placed on colleges and universities by the demands not only of the citizens of the towns and cities in which they are located but also of the larger political entities, especially the state legislatures, upon which they are financially dependent.

Seventh, "student unrest," expressing itself often in "violent confrontations," exerts pressures for "relevance" in the curriculum (as opposed to the research- and discipline-oriented curricula shaped to fit the needs of the graduate school, and for "participatory democracy" within the university (as opposed to control by the "establishment" in the society outside) (4).

Eighth, the "information explosion" or the "proliferation of knowledge" has underlined a growing awareness of the importance of access to information as a crucial element in the whole educational enterprise.

Ninth, the "communications revolution," (in education encompassing a new discipline of "instructional technology," a switch from books to "media," and the entry of "big business" into the production of educational equipment and materials) is about to hit its stride as it moves from the school to the community college level.

And finally, demands for "curriculum reform," for overthrow of the "publish or perish" rule (whether or not it has actually been enforced), for teaching ability as the touchstone of professorial competence–all of these developments (fed, in part, by student expectations resulting from radical changes in school curricula, particularly in the "new math," the "new physics," and the "new biology") are providing the impetus for re-examination of undergraduate education and a multitude of scattered innovative efforts.

These, then, are some of the general trends in higher education (5) which provide the context for the changes in undergraduate education to which the academic library must respond in one way or another. It is worth noting that most of them were recognized almost a decade ago (6) and that they are echoed "officially" in the report to the National Advisory Commission on Libraries (7).

The Nature of "Response"

Some of the trends indicated above are, in fact, pressures to which colleges and universities and their libraries, in turn, have responded by simply coping, in one way or another. The most prevalent response to the pressures of rising enrollments and rising costs has been that of building more and bigger buildings, hiring more faculty, raising tuition, and demanding more financial support from the government. The response to professionalization of the disciplines has been mostly an unflagging devotion to the banner of research and, in the library, to a concomitant emphasis on building the research collection. (Even in colleges which eschew research as an institutional objective, the graduate school model is powerful enough to lead to considerable collecting of materials for faculty research (8).) The response to the flood of print has been primarily the development of more and better networks and systems to provide faster access to a more inclusive body of documents. In all this, various attempts are made to increase the efficiency of operations, but there is little re-examination of purposes or reordering of priorities.

Upon occasion, however, the coping response, particularly when it involves efforts toward efficiency, produces patterns of organization and operation which are indeed new though not very

different from the old ones. Calendar changes and the undergraduate library, of which more below, are examples. And sometimes, the coping response involves a rather fundamental rethinking of ends and means which results in major changes in program. Here the prime example of special significance for the library is the independent study movement.

Other trends affecting higher education arise out of new views of the functions and goals of the enterprise itself. The notion of "universal higher education," the demand for "relevance" to the social problems of our time, the urgent call for improvements in the quality of teaching, all of these require responses which go beyond mere coping to a level of imaginative anticipation and planning. Technological developments involved in the communications revolution have implications all along the line, providing the means for coping with some problems but creating others.

Getting to specifics, one finds so many new developments in undergraduate education and such a variety of library responses to them that it is impossible in the space available here to consider them all. Although some developments are mentioned, with a comment and a reference or two, the only topics discussed at any length are: the undergraduate library in the university, the community college and its library, the independent study movement, the learning resources center, the library-college movement, and certain experimental college library programs. The order of presentation is a sequence intended to reflect a line between the response of coping with pressures to the response of imaginative planning for real innovations and at the same time a progression from programs and practices actually in effect to proposals and hopes for the future.

Coping with Numbers, Costs, and Heterogeneity

Efficiency and economy of operation in the universities are being sought through automation and computerization of housekeeping procedures. Colleges, which are not likely to have computer facilities available locally, are developing cooperative programs, particularly to centralize technical processes, but also with potential for individualized bibliographical and information retrieval services (9). Such developments will not occur rapidly, however. Very few colleges plan even mechanized circulation systems, let alone computerization of technical processes (10). Where there is administrative organization on a district basis, however, as in community college districts or state-wide systems, the opportunity for centralization of acquisitions and cataloging is being utilized (11).

The use of reserve collections of multiple copies is declining as the paperback is more and more accepted as a substitute, although still not as much as some writers advocate (12). A policy of "saturation" with paperbacks has been put into effect at Federal City College in Washington, D.C. (see p.15). Microfilms are also used to expand the collection inexpensively and with space saved as well. The ultra-microfiche is the most promising new development (13).

As enrollments grow, many colleges and universities are no longer attempting to reach all students with formal programs of instruction in the use of the library, although orientation tours and lectures persist, and the library unit is still present in the freshman English course on the smaller campuses. There is increasing use of audiovisual media, repeated showings of films and the like (14). At one or two of the larger universities, voluntary programs and elective courses have been successful (15).

The trends toward universal higher education and life-long continuing education mean that the student population is increasingly diverse in age, in academic background and ability, and in socio-economic levels. These trends receive a great deal of attention in the literature on higher education but only passing reference in library literature, for example, in comments about the need for special library orientation and instruction programs for students who will be admitted under new policies of open admission. Special pre-college programs, such as Upward Bound, are offered on many campuses, but participation of the library in such programs, if it occurs, is not reported. (The special concern of the community college in this area is discussed below.) Colleges and university libraries are, of course, developing special collections to serve the needs of black studies and other interdisciplinary programs.

The Undergraduate Library: A Special Case

There is no question but that the initial impetus toward the establishment of a separate undergraduate library was simply a need to accommodate the exponential growth of university library holdings and the booming undergraduate enrollment. But from the beginning, with the Lamont Library at Harvard, the justification was also that undergraduates were poorly served by the large research library and that they would benefit from a separate facility with a collection and services designed expressly to fit their needs.

Mills reviews the history and development of the separate undergraduate library, paying particular attention to the Lamont Library, the Undergraduate Library of the University of Michigan, and the College Library of UCLA (16). She refers to the Lamont objectives of centralizing services to undergraduates, of making books more readily available through open-stacks, and of encouraging general and recreational reading. At the University of Michigan the policy for building the collection was derived from what are called "negative" reasons.

> The UGL was not to be a "beginners" library, serving freshmen and sophomores only; nor was it intended to serve graduates (although they would be entitled to use it whether or not they were enrolled in courses with upperclassmen); nor was it to be merely a course-reserve library (in which case it could have been formed simply by consolidating the splinter collections already in existence); nor was it to shy away from duplicating titles in other University libraries (which would have been a crippling restriction); nor—most important—was it to be confined to specified needs of the current undergraduate curriculum (17).

Special features included were listening rooms, group conference rooms, a multi-purpose auditorium, an exhibit area, and a snack bar (18).

At the Lamont Library, it was decided that open stack access called for a classification especially adapted to the needs of the undergraduate and a modification of the Dewey system was adopted. Stanford considered the possibility of a dual classification which would include semi-permanent "orbits" based on something comparable to the reader-interest classifications developed for public libraries. This idea was dropped, however, not for financial reasons (though the cost would have been substantial), but because the planning committee came to the conclusion that a classification system ought to combat the over-specialization along disciplinary lines which is so prevalent in the university. The final outcome was a compromise which grouped periodicals and reference materials according to major subject disciplines (19).

In brief, the undergraduate library can be characterized as follows: (1) its collection is carefully selected to serve the needs of the undergraduate program; (2) in its openness and in its furnishings and decor, it seeks to be an attractive and inviting place for study and for general and recreational reading; (3) it strives to centralize and streamline operations in order to provide fast and efficient service on a high-volume basis; (4) in its reference service there is stress on instruction in the use of library resources and the library as a whole aims to be an instructional tool through which students may acquire the library skills which they can apply later in larger and more complex libraries.

There are those who would debate the validity of the assumptions on which this last aim is predicated (20) and there is no evidence on the point either way.

Additional doubts about the educational function and effectiveness of the undergraduate library, however, are raised by statements like this:

> But for libraries like the UGL, demand can be calculated according to numbers of readers. Given that simplification, the rest follows: the UGL collection is comparatively select because it was created to serve a comparatively select group of readers. The UGL is free to concentrate on problems of number simply because problems of value are relegated to other members of the University community—those who set admission standards, or establish curricula, or determine reading requirements. The UGL is, in short, more clearly instrumental than any other library at the University, and quantifiable standards of efficiency can be more meaningfully applied to it than to any

> other. The point is worth laboring because both universities and libraries are often called upon to justify operations in terms of working efficiency. The UGL is almost a test case, suggestiong that educators and librarians can work with factory-like efficiency, when and if they believe the case is one which safely allows for concentration on numbers (21).

Beyond achieving "factory-like efficiency," have undergraduate libraries achieved their mission? Braden, whose doctoral dissertation was on the subject, concludes that there is no general answer to this question. Results reported vary from institution to institution (22). In a proposal for an institute on the undergraduate library to be held in the summer of 1970 at the University of California, San Diego, it is stated that:

> 1. Concepts have not been accorded standard definitions. . . . . While the literature reflects some consensus on certain particulars of need, function, and administration, it is by no means apparent that all writers are talking about the same thing.
> 2. There are no studies which attempt to evaluate undergraduate libraries in terms of each of their original goals or to validate the hypotheses upon which they were justified.
> 3. Of the twenty-eight undergraduate libraries in existence less than ten have been the subject of articles in the literature of librarianship. . . . .
> 4. There is no compilation of factual data about undergraduate libraries systematically collected according to common definitions. As a result, it is impossible to compare one institution with another (23).

Other Innovations in the University

An innovative response on the part of universities to the pressure of numbers is expressed in various moves toward decentralization, designed not merely to accommodate larger numbers of students but also to achieve greater personalization through smaller groupings. Michigan State University has developed satellite installations which provide dormitories, classrooms, faculty offices and libraries for lower division students. The University of California, San Diego, is developing a complex which will eventually comprise twenty colleges, each with an enrollment of about 1500 and with both graduate and undergraduate programs. There will be a field house, an auditorium, and a library for each group of four such colleges, i.e., for 6,000 students, and a central research library for the university as a whole. Since there are only two or three colleges so far, no special undergraduate library program has been developed thus far. The cluster college development at Santa Cruz has a central library for all the colleges. Each individual college has quarters for its own library, but no funds were made available for staff or materials, so that it would appear that a good opportunity for integrating the library with the unique program of each college is not being exploited. No new "college within a college" or university is reported as having any particular library program. Students at the new experimental college at the University of Michigan use the Undergraduate Library, and no special materials or services are provided.

It is particularly unfortunate that the university library has so rarely found it possible to respond actively and aggressively to such new colleges, since there are indications that they would provide fertile ground for experimentation. One investigation, which compared some of them with a control group of traditional colleges, concludes:

> In the cluster college, students and faculty bring with them a high degree of courage and commitment—they are, after all, taking risks—and in turn, the college that has been forced by its circumstances to be self-conscious, critical, and definitive has something special to give these faculty and students. . . . . It is in the interaction of individuals and institutions that the old becomes new and that which in itself is a difference that makes no difference becomes a non-difference that makes a difference (24).

A series of innovations having to do with off-campus study and community service activities might be thought of as another form of decentralization. Although descriptions of these programs often mention reading and study materials used in connection with these activities, they do not indicate that the library played any part in making materials or services available, and library literature is also quiet on the point. It may be that preparation of bibliographies or lists of suggested

readings or gathering together a special collection of materials for such a project would be regarded as just an everyday service not worthy of notice; but it is equally likely that there is as little consultation here as there is with regard to the development of reading lists for any other course in the curriculum.

Two items attest to the library response to student unrest on the campus and to innovations it has stimulated. The first is a news item reporting on damages university libraries have suffered, which includes the information that the library staff at the University of California was given full information on tear gas treatment (25). The other, arguing for greater student involvement of students in library operations, reports that students have established and now operate libraries in connection with unofficial or "free" universities (26). A lively program of student involvement (not, however, stemming from unrest) was developed at Oakland University (27).

It may be that we find so little evidence of library response to programs developed as a result of student dissent because these programs themselves are not prospering. Jencks and Riesman indicate that Tussman College which grew out of the early free speech movement at Berkeley has "already" died because new faculty could not be found to run it (28). A recent review concludes that many of the student-run efforts have failed, that their major impact has been not on the institutions themselves, but, perhaps on faculty and student attitudes (29).

The Community College and Its Library

The community college is in a class by itself as a phenomenal "new direction" in higher education. Reflecting both the general growth in student population and the trend toward the democratization of college expectations, junior college enrollment almost doubled between 1964 and 1968 (30) and was expected to double again in the following five years (31). The accuracy of these projections will depend in part on the extent to which senior colleges and universities abdicate responsibility for the freshman and sophomore years of college work (32).

But beyond sheer numbers, other aspects of the community college have major significance for the library. The fact that almost all community colleges admit any high school graduate (in some states, anyone over 18 years of age) (33) means that the community college student body comes much closer to representing, in academic ability and in socio-economic status, the general population than does that of the four-year college or university (34). Neither a basic minimum of learning skills and habits nor a common background of motivation and capacity for academic work can be assumed. This heterogeneity puts a premium on what are called "developmental" programs, particularly those having to do with study skills, and increases the necessity for a strong counselling program. Indeed, some educators set guidance, both academic and vocational, as one of the fundamental purposes of the community college (35).

The community college accepts major responsibility for vocational and technical education. Johnson reports on a survey of junior college offerings in the north central region which shows 191 new vocational-technical offerings and cites a listing of 101 occupationally-centered curricula available in California community colleges (36).

As its name implies, the community college sees itself as having a close and vital relationship with the community in which it is located. Its technical and vocational programs are designed not only to provide the beginning preparation for young people, but also opportunities for retraining and upgrading the skills of adults in the community. (It often draws upon business and industry in the community to provide teachers for these technical programs as well.)

And finally, many community colleges sponsor programs concerned with civic affairs and cultural activities; their general education courses are open to those who have no interest in the degree programs; courses having to do with hobbies and other such non-vocational interests are not uncommon.

In short, the community college is marked by phenomenal growth, and the heterogeneity of its student population is matched by the diversity of its curricular offerings in the transfer, developmental, technical-vocational, and community service programs.

The dominant curricular track is unquestionably the transfer program. Johnson notes that although two-thirds or three-fourths of junior college students enter with the intention of

transferring to a senior institution, less than one-third actually do so (37). Thus, the idealistic picture of democratic education embodied in the open admission policy is thrown into doubt by those who see the community college as merely taking on a screening and sorting function once carried by the secondary schools or by the high attrition policy of the freshman year in those states which required the state university to admit all high school graduates.

Jencks and Riesman point to the power of the transfer program as a general model for the curriculum in the community college. Teachers are much influenced by standards of the colleges and universities to which students hope to transfer, and they are conditioned by their own training to stick to fairly orthodox objectives and methods. This analysis is summarized as follows:

> Like other "colonial" enterprises, the two-year college has only the most limited ability to choose its own path. Students are being prepared to transfer on somebody else's terms, and this means that whatever their missionary impulses, instructors must toe a line drawn by someone else. So they concentrate their attention on students whom these outsiders regard as worth educating, not on those whom their own ideology puts at center stage (38).

Nevertheless, the community college is, in general, less tradition-bound, more responsive to the social and economic factors which demand an innovative posture than are the four-year colleges and universities. Cross echoes the reservations of Jencks and Riesman, but her conclusions are more optimistic:

> What is not at all clear is how well the community colleges are breaking out of the old molds to provide meaningful education for these new students. It must be admitted that some community colleges are simply weak copies of traditional higher education . . . . .
>
> This is certainly not the picture of some of the leading community colleges, where the atmosphere is pervaded with a sense of excitement and discovery in approaching a new task. Some are experimenting with "outreach" programs that reach directly into the urban ghettos; some are trying new methods of teaching and learning in rather dramatic departures from the classroom lecture; some are deeply concerned with the correction of educational deficiencies, poor learning habits, and lack of motivation (39).

Perhaps, indeed, the community college is the place where a "quiet revolution" is about to take place.

How will this revolution affect the library?

Librarians have responded with zest to the opportunity and challenge of the community college. Few sections of the American Library Association are as enthusiastic and active as the Junior College Section of the Association of College and Research Libraries. Conferences have been held in all sections of the country and they are invariably well attended and well received (40). An entire issue of *Library Trends* was devoted to "Junior College Libraries (41)." Many of the papers presented in these sources describe strong library programs worthy of study and emulation. Nevertheless, the evidence of innovative *practice* is thin and the space devoted to general exhortations about the role the library *should* play and the innovative activities it might undertake is suspiciously large. Furthermore, the library seems to play a very minor part in the new developments reported in Johnson's excellent survey, *Islands of Innovation Expanding* (42).

A limiting factor, of course, is financial support. A large proportion of junior college libraries fail to meet ALA standards. From the outset the standards met considerable opposition from community college deans and presidents, particularly with respect to the staff requirements. And yet, as Wagman points out, the stated quota of two librarians for each 500 students would mean that even if these librarians did nothing else but serve students they would be able to spend only 9.6 minutes per week with each student (43).

The special dimension of library services for the vocational-technical education aspects of the community college program was dealt with in the Conference on Library Services to Vocational-Technical Education Programs in Junior Colleges, held in St. Louis in June 1968. Papers presented at this conference stressed the importance of librarians understanding the characteristics of the technical and vocational students (in comparison to other undergraduates, they may not read as

well or as much, they may be older, their occupational goals may be more limited) and of their assisting the teaching faculty, who may be young and inexperienced, in dealing with these students (44). Mills advises close cooperation with business and industry, particularly with prospective employees in the acquisition of materials for vocational counselling and technical instruction (45).

Norman Tanis, the former librarian of Henry Ford Community College, which has a long tradition of technical and vocational education, advocates special services in this area not only to students and faculty but to business and industry in the community as well. He maintains that if funds are available, the library should really make information available by producing abstracts and bibliographies, by conducting literature searches, by using xerox and microfilm as well as interlibrary loan for materials not in the collection and by collecting outside the regular publications channels such materials as technical reports, patents, blueprints, correspondence, etc. He proposes, finally, that reference service in this area be the kind provided in the special library, i.e., not just information about where information can be found but the actual information itself (46).

Johnson reports on a few instances in which the library figures in the developmental program. At Central Florida Junior College the building which houses the College's "guided" studies program has a "library lounge" which houses a collection of more than 600 paperbacks which are varied in content and reading difficulty. At the Wilson campus of the Chicago City College, one instructor has his "students spend 12 hours a week in their library-laboratory, [which] is supplied with paperback books, newspapers, and magazines." Also at Wilson, a summer reading program offers students remedial instruction and the "opportunity for independent reading in the fields of courses in which they will enroll during the succeeding semester." And the Portland Community College has located in its college library a mathematics laboratory "to which under-achieving students are referred (47)."

The real thrust of innovation in community college librarianship is in the area of the new media and instructional technology. Johnson refers to the library from time to time in instances such as those cited above, but the heading he gives to the only section of his book pertaining specifically to libraries is labelled "Instructional Resource Centers (48)." Although there are shades of meaning implied in choosing this term, or "Media Center," or "Learning Resources Center," the real significance of using any of them instead of "Library" lies not in the provision of non-print materials and media but in the fact that they foreshadow new organizational patterns and roles. Some of the issues in connection with this trend are discussed below in the section on "Learning Resources Centers." But there are at least three reasons why the new names have particular significance for community college librarianship. First, the trend itself has progressed further here than in any other sector of *higher* education. Second, because the community college is younger than its sister institutions, it is less bound to tradition and thus simply more open to innovation. And, third, because the range of statuses in the community college is narrower than it is in four-year colleges or in universities, the community college librarian is more likely to be accepted as a colleague capable of playing an active part in educational planning and development.

One of the major conclusions of Johnson's survey is that there is "a paucity of evidence regarding the success of the various plans which have been described. Evaluation of instruction is largely a missing entity in the junior college, as indeed it is in almost all of American education (49)." This generalization applies to the library, too. Aside from a few general questionnaire-based surveys (50) and the occasional gathering of statistics, there is almost no research on junior or community college libraries reported in the literature. The one notable exception is a case study of student use of what appears to be a rather traditional junior college. As a result of an analysis of the relationship between students' borrowing and the courses in which they were enrolled, Hostrop concludes that "The Library . . . does not figure largely in the students' educational experience . . . and that most courses stimulate little or no student use of library materials (51)." Out of 160 courses in the curriculum, 25 accounted for more than 90 percent of the circulation, only 6 stimulated 80 percent or more of the students enrolled in them to borrow at all, and the time students spent in the library was largely devoted to study of their own textbooks (52).

The Independent Study Movement

The independent study movement has obvious implicatons for the library. But really there are two versions of independent study. In one version, the student works independently and at his own pace, but he uses the materials which have been specifically assigned by his instructor. Because a great many of the programs in this version involve the use of a variety of media, the place where this kind of independent study takes place is increasingly called a learning resources center or an instructional materials center. Some of the questions involved in this new development are discussed below. A particular aspect of this version, the possible trend toward "packaged programs," might be mentioned here.

One writer advocates doing away with lower division courses altogether, and using books, syllabi and examinations for all general requirements (53). Another thinks it will not be long before colleges and universities contract with outside firms for packaged programs in, for example, freshman English, just as we now employ outside caterers for campus food services (54). Colleges may adopt the procedures for the centralized preparation of packages of materials in the style of the Toronto school system (55). The reference librarian at one junior college reports "packaging" on microfiche relevant pages of Ph.D. dissertations in English literature for the use of students working on individual works of contemporary literature (56).

The second version is the old-fashioned independent study which used to be offered almost exclusively to advanced or honors students. Here the student inquires in some depth into subjects individually selected. This kind of independent study has been generally increasing and also is more frequently offered to lower-division students and to students of average ability. It seems inevitable that these changes have had and will continue to have a profound impact on the library. But it is the traditional business of the library to provide materials and reference services to students who are studying by themselves in the library. How can genuinely independent study be identified as such? Presumably an answer to the question would require a level of research we are not now conducting. In any case, beyond the frequently recurring statement that the growth of independent study is placing an all but unbearable burden on the library, there is almost nothing in the literature which measures or evaluates the contribution of the library, or even describes in concrete terms precisely what is happening.

One exception occurs in a report on another innovation, that of the interim term, usually a month between regular terms, in which various travel, community service, and individual study projects may be undertaken. A report on a three-year study of the interim term at Florida Presbyterian College is unusual in that it tells something about its impact on the library, indicating that circulation increased more than enrollment and that it "quadrupled during the interim term." This report is notable, also, in that it refers to carefully worked out procedures through which the library can acquire needed materials ahead of time, disseminate information about proposed study projects, and provide special library orientations before the term begins (57).

The Learning Resources Center

In library literature, the innovation which receives by far the most attention is provision of audio-visual facilities, equipment, and materials. In a somewhat defensive vein, a few writers still maintain that libraries should stick to books, but acceptance of other media is almost universal. The specific types of media which are being used need not be itemized here. They are fairly standard and they are repeated again and again in the literature (58). Electronically equipped carrels, which probably represent the ultimate in aspiration at the present time, were in only 14 percent of the liberal arts college libraries surveyed by Forman, but they figured in the planning of another 22 percent (59). As a cautionary note, Francis Keppel predicts that change through educational technology will occur at a much slower pace than expected in the 1960's. A major factor is cost and the lack of evidence that investment in the new technologies will pay off. "The educational world is not persuaded by studies and experiments that any one of the technologies can produce either more learning or faster learning than conventional methods (60)."

Some of these studies and experiments, as carried on in community colleges, are reported by Johnson, who concludes that there is little comparative evaluation of new media and methods and

that what there is is far from conclusive (61).

Nevertheless, the shift toward non-print media and instructional technology is happening and it may have far-reaching consequences for the library, ranging all the way from giving the library a new and much more vital role in the educational program to causing it to be replaced by a new agency of quite a different sort. Some of the issues involved in this development are organizational, some pertain to the respective roles and qualifications of teachers, librarians, and media specialists, and some relate to teaching strategies and theories of learning.

For the junior college at least, Christensen maintains that provision of audio-visual materials and services should be centralized in the library (62). Her case rests primarily on the economies to be derived from centralization of purchasing, etc., and on the efficiency to be gained as a result of the librarian's organizing skills and experience. But she also sees value in blurring the distinction between print and other media and hopes that centralization will provide occasion for greater collaboration with the faculty.

In a more analytical and less prescriptive approach to the organizational question, Harcleroad identifies the factors of age, size, and major purpose as determining the patterns which have developed (63). As examples of these patterns he presents brief descriptions of:

(1) a new community college (Brevard Junior College, Cocoa, Florida) in which the library is one of seven units which make up a Division of Educational Services, whose Director reports to the President of the College. The "new technological aides to learning" and the local production of learning materials are located outside the library division.

(2) a long-established private junior college (Stephens College, Columbia, Missouri), in which the library is one building in a "Learning Center" organized under a Director of Educational Development, who is primarily concerned with coordination of the Center with the instructional program of the College. Although the library includes all media, the central point of electronic control is in the television, radio, and film department, which is also responsible for locally produced materials.

(3) a four-year liberal arts college (Oklahoma Christian College), which has developed a learning center which includes a library but emphasizes independent study in carrels outside the library. These are equipped for dial-access to taped materials and may be used also for audio-visual materials and equipment checked out from the department responsible.

(4) another four-year college (Oral Roberts University), which has an elaborate Learning Resources Center including all kinds of electronic and audio-visual equipment, with dial-access capability for video as well as audio materials. Although the Center is used primarily to supplement classroom instruction, the emphasis is on locally produced and assembled materials (64).

(5) a state college (California State College at Hayward), with (as of 1967) 5,000 students and both graduate and undergraduate programs, which has parallel Divisions of Libraries and of Learning Resources, both reporting directly to the President.

(6) a long-established and growing university (Southern Illinois University, Carbondale), which has a structure which incorporates within the library a self-instruction center, audio-visual services and materials preparation services, while the film production center, the data-processing center and television facilities remain outside its scope.

(7) a great research university (The University of California, Berkeley), which has a rich variety of sophisticated instructional resources available on the campus not organized in any centralized fashion and completely separate from its library.

(8) another university (The University of Minnesota) which has a unit called "university services" which includes both Audio-Visual and Printing Services, which specialize in the production of learning materials. These divisions operate entirely outside the scope of the university library.

Harcleroad concludes:

> At the present time, however, the most promising organizational developments for using learning resources are taking place outside the library in large research universities, and in a new division of educational services or learning resources which includes the library in smaller, instructionally-oriented colleges and community colleges (65).

The distinction drawn among these organizational patterns is based primarily on a distinction between print and non-print media. In the large university the library takes little or no responsibility for non-print materials; in the smaller institution which stresses the teaching function, the library is one among several units which provides instructional materials. McIntyre (66) draws a slightly different organizational distinction, one which focusses on responsibility for local production of learning materials. To the example of the University of Southern Illinois, which does provide some production services, he adds that of the Purdue University Library, whose Audio-Visual Center produces films, slides, filmstrips, and audio tapes and the printed materials related to them. A still different pattern, however, is exemplified at the University of Illinois, Chicago Circle Campus, where there is an Office of Instructional Resources encompassing an Instructional Systems Group (with divisions covering course development, programmed instruction, and learning evaluation) and a Production and Services group (with divisions responsible for television, audio-visual, and graphic arts). The Office of Instructional Resources is located in the library and works cooperatively with it, but the two units have separate budgets and report separately to the Dean.

> McIntyre states that although it should be related to the library, a complete learning resources center will require, in addition to the usual specialists for a conventional library, the following kinds of specialists: psychologists concerned with learning research and measurement; television directors, engineers, and other technicians; graphic artists; photographers and other photographic technicians; computer programmers; and instructional programmers (67).

Noting that instructional technologists are taught little of psychology and nothing of librarianship and that librarians learn little of psychology and only a smattering of audio-visual methods, he admits that really no discipline is preparing people for leadership responsibility in complete learning resource centers. His conclusion that a "librarian, because the library is so central to the educational process, should be prepared to function as an educator in the *production,* most broadly speaking, of materials for the non-print technologies (68)," seems not to follow from either the model of the Chicago Circle organization nor from his analysis of the needs of the Center (unless the interpretation of the term production is, indeed, very broad) (69).

The discussion thus far of some of the organizational patterns for the provision of learning resources highlights some of the nuances in the long-standing tension between librarians and audio-visual specialists in elementary and secondary schools. This tension has been partly resolved through the recent collaboration between the American Association of School Librarians and the Department of Audio-Visual Instruction (DAVI) of the National Education Association in the production of new standards for the "School Media Center." But there remain differences in approach and method between what we now call "instructional technologists," on the one hand, and librarians, on the other. Where the focus of disagreement used to be on books *versus* other media, attention has shifted to two other aspects. In the first place, the instructional technologist sees himself primarily working with teachers to develop instructional packages to be presented to a whole class (whether in the classroom itself or set up for individual use in the media center) while the librarian sees himself as collecting and organizing a body of resources (not just print but all media) which can be drawn upon at will by teachers and pupils in accordance with their individual needs and interests (70). Furthermore, the audio-visual man turns his attention increasingly to the local production of materials (probably because there are such limitations in both quality and quantity on what is available from outside sources) while the librarian can remain reasonably assured of the possibility of collecting a wealth of materials in print (71).

A foreign visitor underlines the *educational* issues involved in these matters, as follows:

> The emphasis in IMC's [Instructional Materials Centers or Learning Resources Centers, the term used here] can be on directed activity, on instruction organized by teachers and librarians down to the last detail, with minimal self-development toward *self*-instruction and *self*-direction by the individual student.
>
> It is possible for these library complexes, with their wide range of educational materials, to give an *illusion* of freedom; the very variety plus the silence or

> absence of the continually talking teacher make learning appear independent. A highly organized materials center can be a highly efficient means of instruction but do nothing to improve any student's search strategies. It can be as restrictive in terms of the student's ultimate capacity for education as the teacher lecturing from a single textbook. . . . .
> . . . . . It may be that familiarity with the range of materials and learning through new media are experiences valuable in themselves, though the precise nature of such gains—their long-term value in, for instance, equipping students for lifelong self-education—are yet to be defined. Still, without fundamental re-thinking, without clear overriding *purposes* and determination to use new media, new methods, to serve those purposes, the educational gains will not justify the expense of instructional materials centers and the hardware associated with them (72).

In his own University of Papua and New Guinea, Roe has established an Educational Materials Center with the functions of collecting and evaluating materials to be used not only in preparing school teachers to evaluate and use learning resources but also in University teaching. He justifies the separation of this Center from the University library primarily on the grounds that the latter has a prior and overriding responsibility for developing a collection. All the same, he criticizes librarians, in general, for their tendency to value collection-building and administration at the expense of service to readers while, at the same time, he takes the teaching faculty to task for failing to exploit the library as a teaching instrument (73).

The extreme of the movement toward use of the learning resources center in connection with a planned program of independent study is represented by the program of the Oakland County Community College in Michigan (74). Here the college undertook to develop an entire curriculum on the audio-tutorial model developed by Postelthwaite at Purdue for the teaching of botany (75). A firm of educational consultants was engaged to work with the faculty and instructional materials staff to state terminal objectives in behavioral terms, to identify a sequence of interim objectives (or "performance specifications,"), to select appropriate media and materials for achieving them and to develop instruments for prompt and frequent feedback and evaluation. Conventional classes are replaced by large "assemblies" which meet weekly, small group discussion sessions, and independent study in carrels in "learning laboratories" where faculty members provide tutorial assistance (76). The learning laboratory is conceived as part of the library system and is under the same administration. Its actual operation, the organization and provision of learning materials, is handled in a warehouse fashion by clerks, but professional members of the library staff participate in the selection, location and assembling of the learning materials.

The Library-College Movement

In a sense, the learning resources center, particularly as it is embodied in Oakland Community College's systems-approach to the development of a total curriculum designed for independent study, epitomizes the central concept of the library-college, for here the library comes close to *being* the college. But proponents of the library-college idea point to other and quite different innovations as also illustrating application of the idea and, indeed, at least one friend of the movement would view with alarm any wholesale trend toward systematic packaging of resources for learning (77).

The movement's most ardent and prolific spokesman, Louis Shores, defines the concept as involving: 1) an emphasis on independent study (including the generous provision of individual study carrels, preferably electronically equipped, calendar and schedule changes to provide for individual study projects, and, in general, a movement out of the classroom into the library), 2) the total range of media of communication (used particularly to match the diversity among individual students), and 3) the personalization of education (through smaller organizational patterns, a closer student-faculty relationship, curricula tailored to fit student profiles, etc.) (78). In line with the breadth of this definition, the "Innovations" column in the *Library-College Journal,* edited by Shores and Janeice Fusaro, reports on an amazing variety of curricular developments, teaching

procedures, and library facilities and services.

The vigor of the library-college movement is expressed in several conferences on the subject (including the "College Talkshop" at Kenyon College, 1962; Wakulla Springs Conference, Florida State University, 1964; Jamestown Library-College Workshop, Jamestown College, North Dakota, 1965; Library-College Conference, Drexel Institute of Technology, 1966; and the Library-College Interdisciplinary Conference, Chicago, 1969).

The increasing attention the movement is receiving in the library world is signalled by the flourishing *Library-College Journal,* by the inclusion of the topic in the recent *Library Trends* issue on college librarianship (79), and by the fact that the movement is discussed in the report of Nelson Associates to the National Advisory Commission on Libraries (80).

So far the library-college concept has not attained realization in anything approaching a "pure" form. Plans for Jamestown College, Jamestown, North Dakota embodied all the elements, but these plans have never been implemented (81).

Imaginative Planning for Experimental Colleges

Among the plans for new libraries, one of the most imaginative and unorthodox was that developed for Federal City College, the first urban land-grant college, which opened in Washington, D.C., in the fall of 1969. Under the direction of librarian Robert Jordan, a Media Services staff is responsible for all instructional media, including a Media Center, a Media Store, and a Media Room for use of the children whose parents are enrolled in the College. A rather small open-stack, non-circulating collection of books in the Media Center is supplemented by an enormous collection of paperback duplicates, which are handled in warehouse fashion, and are available to a limit of fifty titles at a time, for indefinite loan (82). It is much too soon to tell which of the many innovative practices at Federal City College will prove their merit or, indeed, survive. The College suffers from dependence on the Congress for funding and is reported to be torn by internal dissension. Having reviewed the first year of operation, one writer concludes: "The danger of Federal City College is not that it will fail as an institution, but that it will fail as an experiment (83)."

The establishment of a new college with an avowedly experimental program offers a special opportunity for a library response. Such an opportunity was provided at Wayne State University in 1959 when Monteith College was established. The University responded by assigning Patricia Knapp to work with the faculty of this new college in developing plans for library-related assignments in a curriculum of general education which emphasized the goal of helping students acquire the capacity for independent study. On the basis of initial collaboration, a proposal calling for fairly extensive experimentation and research was accepted by the Office of Education. Funds were granted for a pilot project which took as its research emphasis an exploration of the nature of librarian-faculty relationships in the collaboration. The final report on the project (84) included not only the results of this research but also a number of by-products having to do with various facets of library-related instruction. Probably the most significant of these was a developmental sequence of library assignments designed for coordination with general education courses in the social sciences, the natural sciences, and the humanities and extending from the first term of the freshman year to the first term of the senior year. Although some of the assignments were used in the pilot project, most were not and the sequence as a whole was never implemented. The significance of the Monteith experiment, then, rests not so much on what it accomplished as in the scope and seriousness of what it attempted (85).

As a result of a thorough year-long study, the Special Committee on Library Policy of Swarthmore College produced a report and recommendations designed to make the library a "teaching library," which is defined as falling somewhere between a warehouse conception of library service and the library-college idea. The Committee had evidence indicating that despite the famous Swarthmore Honors Program, most Swarthmore students depend heavily on textbooks, reserve materials, and other prescribed reading; few have any experience of independent exploitation of library resources. Among the specific recommendations to remedy this stiuation, the following are notable:

> That experience and proficiency in the use of library materials be made an integral part of courses of instruction. . . .
> That the curriculum assure experience in self-instruction through independent reading. . . .
> That each student should be required to demonstrate some skill at independent inquiry as he progresses through the curriculum and as a major prerequisite for graduation; and that he spend at least one semester with a reduced course load, appropriate to the scope and difficulty of his project, in order to be free for independent study. . . .(86)

The report of the Commission on Educational Policy, published in the same volume, indicates that these recommendations were not actually adopted but were taken into account as suggesting procedures which should be encouraged rather than required.

On the current scene, the most promising library response to a new experimental college is that embodied in the plans for Hampshire College, a private college in Amherst, Massachusetts, which will admit its first freshman class in the fall of 1970.

> The Hampshire College program, as presently planned, introduces a number of departures from conventional academic procedures; among them a three-School academic structure instead of the more fragmented departmental arrangement, a flexible time schedule of three sequential Divisions in lieu of the usual four-year rule, and replacements of fixed graduation requirements based on prescribed course credits by a system of comprehensive examinations and independent research or creative projects. Time off campus will be encouraged for travel, work periods, independent research, and community service (87).

Another significant innovation was that planning for the library was an integral part of planning for the college from the outset. The Director was one of the first administrators on the scene. The library building was planned as the hub of the campus, closely related to other instructional facilities. And the concept of the library as encompassing new media and new technologies for the transmission of information was a basic element in initial thinking about the program as a whole.

As a result, there were a number of promising elements in the plans for the Hampshire Library as of April, 1969. First, the library would manage or share the management of a bookstore, computer facilities for the campus, and a center for the transfer of information which, itself, would embrace an audio-visual center, a laboratory, and studios, all this, of course, in addition to the conventional library.

The information transfer (INTRAN) Center was envisioned as serving as both a switching center, "linking the library, residence houses, audio-visual center, and remote but relevant collections of data and computer programs" and as an experimental laboratory. In its laboratory function the Center would be concerned with developing materials and methods which would help the user learn how to use the library and other sources of learning materials and with various research projects designed to stimulate use of the library "as a laboratory rather than a warehouse (88)."

In defining its goal, the Hampshire Library has moved beyond the levels of simply providing service on call or of acting only as a center for the transmission of messages to a third level.

> The third level is more difficult to define. It is both more subtle, because the defining words are imprecise, and more dependent on fundamental change in the environment surrounding the library. Rather than a place, it is a process. Under today's conditions, the library, within this context, rests on and utilizes the technology of the first two levels described above. However, the systems and devices are only tools by which the library becomes a creative, initiating, and dynamic partner in the educational process. It requires a fundamental change of attitude (89).

At this level, "the key concept . . . is 'commitment to experimentation' (90)."

Planning for the recently chartered College of the Potomac (the opening date seems not yet to have been set) involved an extensive survey of new developments and innovative ideas and practices

in college librarianship. The results of this survey, published in two related reports (91), constitute a succinct but comprehensive, lucidly-written, and well-organized review of many of the trends and developments discussed in this paper. They provide the basis for a proposal for a long-range and coordinated research program to study the implications of all this college library "ferment" for the "design and development" of new college libraries. Among the options suggested for machinery to carry out this program is a "Research Institute for College Information Transfer to be established at a small college with a particularly dynamic library program." If the proposed research program is implemented, if this option is the one selected to implement it, and if the College of the Potomac is designated as the particular "small college," we might look here for the really revolutionary library developments of the future.

In all of these plans for innovation in college librarianship, one senses a gap between dreams and reality. The farther from actuality, the more imaginative and ambitious are the plans; the closer to actuality, the more traditional patterns of thinking, long-standing habits of work, and the ever-present lack of financial support come into operation. The dream of the College of the Potomac, which does not yet have a starting date, is to have a library which would serve as a laboratory to test and evaluate all educational and technological innovations pertaining to college librarianship. Hampshire College will soon discover whether or not it can be a continually "experimenting library" in an experimenting college. The more modest objective that the Swarthmore Library be a "teaching library" for all students has already been made less inclusive. The ambitious course-related library program developed out of the Monteith pilot project was never implemented because it appeared to call for too great an expenditure of time and money. There are indications that, after only a year and a half of operation, the Media Services Program of Federal City College is having difficulty maintaining some of its experimental approaches in the face of financial and organizational problems. Nevertheless, the ideas persist and they continue to receive attention particularly from those librarians who have a sense of mission about making the most of the potential of the library in contributing to undergraduate education.

Conclusion

A major impression one receives from reviewing the literature on library service for undergraduate education is that a great deal more is said about what ought to be done than about what is actually being done. Further, there are many more plans, described in glowing terms, than there are reports on their implementation. Real evaluation of the effectiveness of new programs is almost non-existent.

A second and related general impression is that the library response to new developments in undergraduate education is disappointing because so little of a truly innovative nature is occurring in undergraduate education itself. There is indeed change, change in the size and in the character of the student body and change in the number of subjects to study, but colleges and universities seem to be mostly just coping with these changes and their libraries are coping, too–somehow managing to provide the same kinds of materials and services to more and more students in more and more courses.

But there are some exceptions to these generalizations. For a number of reasons and in a number of respects, the community college seems to offer promise of breaking away from traditional methods of teaching and learning. The new instructional technology, associated with the inevitable trend toward non-print media of communication, is forcing educators to direct their attention to the methods of teaching and not just the content. At the same time it is forcing librarians to re-examine traditional patterns of organization of library materials and services. And finally, the *ideas* inherent in imaginative plans–particularly those which have been developed for experimental colleges–seem to have a general impact on academic librarianship even when the specific programs in which they were set forth are not successful.

REFERENCES

1. Bibliographies recommended for their comprehensiveness include the following:

   Alice B. Griffith, *Selected Bibliography on Junior College Libraries, 1955-1967,* (Chicago: American Library Association, 1967). (Available from ERIC, no. ED 013 109.)

   Robert T. Jordan, John M. Goudeau, Louis Shores, *Impact of the Academic Library on the Educational Program,* (New Dimensions in Higher Education, No. 29; Durham, North Carolina: Duke University, 1967). (Available from ERIC, no. ED 013 351.)

   Historical Evaluation and Research Organization, *Study to Develop a Research Program for the Design Development of Modern College Libraries,* (McLean, Virginia, 1968). (Available from ERIC, no. ED 020 762). The bibliography also appears in T.N. Dupuy, *Ferment in College Libraries: The Impact of Information Technology,* (Washington, D.C.: Communication Service Corporation, 1968).

2. Ralph A. Dungan, "Higher Education; the Effort to Adjust," *Daedalus* (Winter, 1969), p. 147.

   Martin Trow, "Reflections on the Transition from Mass to Universal Higher Education," *Daedalus* (Winter, 1969), p. 25.

3. Christopher Jencks and David Riesman, *The Academic Revolution,* (New York: Doubleday & Company, 1968).

4. "The Embattled University," *Daedalus,* (Winter, 1970).

5. Alvin C. Eurich, ed., *Campus 1980: The Shape of the Future in American Higher Education,* (New York: Delacorte Press, 1968) is an interesting compilation of opinions and remarkably varied projections of these trends. Lewis B. Mayhew, *Colleges Today and Tomorrow* (San Francisco: Jossey-Bass, Inc., 1969) provides a more unified picture, that of one of the most highly respected authorities on higher education.

6. Cf. Eileen Thornton, "Libraries in Smaller Institutions of Higher Education," *Library Trends,* X(October, 1961), pp. 191-208 and Frederick H. Wagman, "Library Requirements of the Modern College," *Library Quarterly,* XXXI (January, 1961), pp. 33-44.

7. Nelson Associates, *Undergraduates and Junior College Libraries in the United States; A Report Prepared for the National Advisory Commission on Libraries,* (New York, 1968). (Available from ERIC, no. ED 022 487.)

8. The "Acquisitions" column in *College and Research Libraries News* frequently reports on special and often esoteric collections acquired by college libraries.

9. Frederick G. Kilgour, "Computerization; the Advent of Humanization in the College Library," *Library Trends,* XVIII (July, 1969), pp. 29-36.

10. Sidney Forman, "Innovative Practices in College Libraries," *College and Research Libraries,* XXIX (November, 1968), p. 492.

11. Robert C. Jones, "The Junior College District of St. Louis," in *The Junior College Library,* ed. by B. Lamar Johnson, (Los Angeles: University of California, Los Angeles, School of Education, 1966), pp. 59-66.

Roger E. Schwenn, "Center System Libraries, The University of Wisconsin," in Conference on Junior College Libraries (2nd; DeKalb: Northern Illinois University, April 28-29, 1967) *Illinois Libraries,* XLIX (November, 1967) pp. 824-826.

12. Frederic R. Hartz, "Paperback Books and the College Library," *Improving College and University Teaching,* XII (Spring, 1964), pp. 91-93.

    Humphrey A. Olsen, "Building the Book Collection," *Library Trends,* XIV (October, 1965), pp. 156-165.

13. Edward C. Jestes, "Little Fiche Eat Big Librarians– One Whale of a Story," *Wilson Library Bulletin,* XLIV (February, 1970), pp. 650-652.

14. Barbara H. Phipps, "Library Instruction for the Undergraduate," *College and Research Libraries,* XXIX (September, 1968), pp. 411-423.

    Bruce L. Paulsen, "Junior College Library Orientation Innovations," 1968. (Unpublished paper, available through ERIC, no. ED 019 058.)

15. Verna V. Melum, "Library Instruction in a University," *Illinois Libraries,* LI (June, 1969), pp. 511-521.

    Charles Shain, "A Bibliography Course at U.C. Berkeley," A paper submitted to the California Library Association Conference, San Francisco, December 11, 1969. (Unpublished.)

16. Elizabeth Mills, "The Separate Undergraduate Library," *College and Research Libraries,* XXIX (March, 1968), pp. 144-156.

17. "The Undergraduate Library," *Research News,* Office of Research Administration, University of Michigan, XV (May, 1965), p. 4.

18. Mills, *op. cit.*, p. 152.

19. Wolfgang M. Freitag, "Planning for Student Interaction with the Library," *California Librarian,* XXVI (April, 1965), p. 89-96.

20. William S. Dix, "Library Service to Undergraduates: Undergraduate Libraries," *College and Research Libraries,* XIV (July, 1953), p. 271.

21. "The Undergraduate Library," (ref. 17), p. 11.

22. Irene A. Braden, "The Separately Housed Undergraduate Library," *College and Research Libraries,* XXIX (July, 1968), pp. 281-284.

23. "Proposal for an Institute Entitled Training for Service in Undergraduate Libraries," The University Library, University of California, San Diego, pp. 13-14.

24. Warren Bryan Martin and Judith K. Wilkinson, "Non-Differences That Make a Difference," *The Research Reporter,* (Berkeley: The Center for Research and Development in Higher Education) vol. IV, no.3, 1969, p. 7.

25. "News Report: 1969," *Library Journal,* XCV (January 1, 1970), p. 38.

26. Robert P. Haro, "College Libraries for Students," *Library Journal,* XCIV (June 1, 1969), p. 207-208. The article does not identify specific examples, but in personal correspondence the author reports one at the University of California, Davis.

27. Joseph Howey and Elizabeth McKenney, "Point of Increasing Returns," *Library Journal,* XCI (December 15, 1966), pp. 6039-6042.

28. Jencks and Riesman, *op. cit.*, p. 542.

29. Peter Janssen, "Free U. and Old U.," *Change in Higher Education,* I (November-December, 1969), pp. 11-13.

30. K. Patricia Cross, "The Quiet Revolution," *The Research Reporter* (Berkeley: The Center for Research and Development in Higher Education) vol. IV, no. 3, 1969. Figures from the American Council on Education show an increase from 1,043,000 in 1964 to 1,954,116 in 1968.

31. B. Lamar Johnson, *Islands of Innovation Expanding; Changes in the Community College,* (Beverley Hills, California: Glencoe Press, 1969), p. 14. A more careful estimate projects an enrollment of 2,620,000 in 1980. Cf. Sidney G. Tickton, "The Magnitude of American Higher Education in 1980," in Eurich, *Campus, 1980,* p. 17.

32. Johnson, *op. cit.*, p. 38, cites a prediction made by Alvin C. Eurich that by the year 2000 lower division work will be carried on almost exclusively by junior colleges, "Higher Education in the 21st Century," *Atlantic Monthly,* CCXI (June, 1963), p. 51.

33. *Ibid.*, p. 40.

34. Cross, *op. cit.*, p. 2.

35. Johnson, *op. cit.*, p. 41.

36. *Ibid.*, p. 38.

37. *Ibid.*, p. 41. In 1960, Clark estimated that only 10 to 15 percent moved into four-year colleges. Cf. Burton R. Clark, "The 'Cooling Out' Function in Higher Education," *American Journal of Sociology,* LXV (May, 1960), pp. 569-576.

38. Jencks and Riesman, *op. cit.*, p. 488.

39. Cross, *op. cit.*, p. 4.

40. Charles Alexander, ed., *The Administration of Library Instructional Services in the Community College; Highlights of the November 12-20, 1965 Conference,* (Detroit: Wayne State University, 1965).

    B. Lamar Johnson, ed., *The Junior College Library,* A Report of a Conference Sponsored by the University of California, Los Angeles, the American Association of Junior Colleges, the American Library Association, and the Accrediting Commission for Junior Colleges of the Western Association of Schools and Colleges, July 12-14, 1965, (Occasional Report, No. 8; Los Angeles: University of California, Los Angeles, School of Education, Junior College Leadership Program, 1966).

Annual Conference on Junior College Libraries, Northern Illinois University, 1st, 1966 to 4th, 1969. Papers published in *Illinois Libraries*, 1966-1969.

Everett LeRoy Moore, ed., *Junior College Libraries: Development, Needs, and Perspectives;* Papers presented at a Conference Sponsored by the American Library Association, the American Association of Junior Colleges, and the University of California, Los Angeles: University Library, School of Library Service, and Clearinghouse for Junior College Information, June 21-24, 1967, (ACRL Monograph, No. 30; Chicago: American Library Association, 1969).

41. Charles L. Trinker, ed., "Junior College Libraries," *Library Trends*, XIV (October, 1965).

42. Johnson, *Islands of Innovation Expanding*, (ref. 31).

43. Frederick H. Wagman, "Library Requirements of the Modern College," *Library Quarterly*, XXXI (January, 1961), pp. 33-44.

44. Clyde E. Blocker, "Personnel Needs of Two-Year College Libraries," Paper presented at the Conference on Library Services to Vocational-Technical Education programs in Junior Colleges, (St. Louis, June 19-22, 1968). (Available from ERIC, no. ED 021 543.)

45. Marie T. Mills, "Technical Education and Resource Material," Paper presented at the Conference on Library Services to Vocational-Technical Education Programs in Junior Colleges, (St. Louis, June 19-22, 1968). (Available from ERIC, no. ED 021 545.)

46. Norman E. Tanis, "Reference Services for Technology," RQ, IX (Winter, 1969), pp. 121-123.

47. Johnson, *Islands of Innovation Expanding*, (ref. 31), pp. 194-205.

48. *Ibid.*, pp. 163-168.

49. *Ibid.*, p. 325.

50. Helen Rippier Wheeler, *The Community College Library: An Appraisal of Current Practice*, (New York: Teachers College, Columbia University, 1964).

_____, "Community College Library, 1965," *College and Research Libraries*, XXVII (September, 1966), pp. 395-397.

51. Richard W. Hostrop, *Teaching and the Community College Library*, (Shoe String Press, 1968), p. 165.

52. *Ibid.*, pp. 162-166 *passim.*

53. Henry Moulds, "Why Have Teachers at All?," *North Central Association Quarterly*, XXXVII (Fall, 1962), p. 171-173.

54. Harold L. Hodgkinson, "The Next Decade of Higher Education," *Journal of Higher Education*, XLI (January, 1970), pp. 16-28.

55. Leonard H. Freiser, "Students and Spoonfeeding," *Library Journal*, LXXXVIII (September 15, 1963), pp. 3251-3253.

56. William T. Whitney, "Miniatures and Microforms–A Reference Librarian Looks Ahead," Moore, *op. cit.*, pp. 47-56.

57. John M. Bevan, "The Interim Term: Its History and Modus Operandi," *Library-College Journal,* II (Summer, 1969), pp. 20-21.

58. Cf. for example the "Innovations" column edited by Louis Shores and Janeice Fusaro, which appears in every issue of the *Library-College Journal,* and the individual papers presented at community and junior college library conferences.

59. Forman, *op. cit.*, p. 492.

60. Francis Keppel, "Teaching Machines: A Long Way To Go," *New York Times* Monday, January 12, 1970, p. C62.

61. Johnson, *Islands of Innovation Expanding,* (ref. 31), pp. 303-313.

62. Ruth M. Christensen, "The Junior College Library as an Audio-Visual Center," *College and Research Libraries,* XXVI (March, 1965), pp. 121-128.

63. Fred L. Harcleroad, "Learning Resources Approach to College and University Library Development," *Library Trends,* XVI (October, 1967), pp. 228-240.

64. There has been a shift away from the classroom since 1967. Now faculty members work with the director of learning resources to produce syllabi which furnish the basis for the librarian, the director of instructional media, and the media production director to work together to provide the necessary instructional materials required for independent use of the "Data and Information Retrieval System." Cf. William W. Jernegan, "One Who DAIRed–A Dial Access System," *Wilson Library Bulletin,* XLIV (February, 1970), pp. 653-657.

65. Harcleroad, *op. cit.*, p. 239.

66. Charles J. McIntyre, "The Librarian's Role as Educator in the Production of Non-Print Materials," *Library Trends,* XVI (October, 1967), pp. 266-273.

67. *Ibid.*, p. 271.

68. *Ibid.*, p. 272. (Italics supplied)

69. In this connection, it is interesting that the *Guidelines for Audio-Visual Services in Academic Libraries,* (Chicago: Association of College and Research Libraries, 1968) indicates that separate facilities are in order when *production* is involved.

70. Margaret Hayes Grazier, "Effects of Change on Education for School Librarians," *Library Trends,* XVII (April, 1969), pp. 410-423.

71. In this connection, it was interesting to note that Harcleroad, in the article cited above, reported that in 1967 the University of California had more than 3,000,000 volumes in its library at the same time that the TV center boasted 350 reels of video tape and film. *Op. cit., p.* 236.

72. Ernest Roe, "The Demise of Betsy's Library," *Library Journal,* XCIV (February 15, 1969), pp. 835-839.

73. Ernest Roe, "Library–Materials Center–or Both?," *Library-College Journal,* II (Winter, 1969), pp. 11-23.

74. Johnson, *Islands of Innovation Expanding* (ref. 31), pp. 98-104.

75. Samuel L. Postelthwaite, "An Audio-Tutorial Approach to Teaching Botany," in *Midwest Community College Leadership Program: Administration and Innovation, Papers from the Sixth Annual College Presidents' Institute,* (Ann Arbor, 1966), pp. 39-60. Postelthwaite has been invited to describe his methods at a number of educational conferences. See also B. Lamar Johnson, ed., *Systems Approach to Curriculum and Instruction in the Open-Door College,* (Occasional Report No. 7; Los Angeles: University of California, School of Education, Junior College Leadership Program, 1965), pp. 45-53.

76. Albert A. Canfield, Walter J. Fightmaster, and Alvin E. Ugelow, "A Learner-Centered Instructional Systems Approach," Paper presented at the National Society for Programmed Instruction, April 16, 1966, St. Louis, Missouri.

77. Cf. Patricia B. Knapp, "Independent Study and the Academic Library" in *Approach to Independent Study,* comp. by Winslow R. Hatch and Alice L. Richards, (New Dimensions in Higher Education No. 13; Washington: Government Printing Office, 1965), pp. 25-33.

78. Louis Shores, "Library-College USA," *ALA Bulletin,* LXIII (December, 1969), pp. 1547-1554.

79. Sister Helen Sheehan, "The Library-College Idea: Trend of the Future?," *Library Trends,* XVIII (July, 1969), pp. 93-102.

80. Nelson Associates, *op. cit.*, p. 39.

81. Louis Shores, Robert Jordan, and John Harvey, eds., *The Library-College; Contributions for American Higher Education at the Jamestown College Workshop, 1965,* (Philadelphia: Drexel Press, 1966). This volume is almost an anthology of the library-college movement. Part III presents recommendations for Jamestown College.

82. William E. Hinchcliff, "Urban Problems and Higher Education: Federal City College," *Wilson Library Bulletin,* XLIII (February, 1969), pp. 527-533.

83. Wallace Roberts, "Prospects for the Common College: Federal City," *Change in Higher Education,* I (November-December, 1969), pp. 44-52.

84. Patricia B. Knapp and others, *An Experiment in Coordination between Teaching and Library Staff for Changing Student Use of University Library Resources,* Cooperative Research Project No. 874, (Detroit: Monteith College, Wayne State University, 1964). (Available from ERIC, no. ED 002 954.) Published as *The Monteith College Library Experiment,* (New York: Scarecrow Press, 1966).

85. Nelson Associates, *op. cit.*, p. 39.

86. Swarthmore College, *Critique of a College,* (Swarthmore, Pennsylvania, November, 1967), pp. 350-352.

87. Robert S. Taylor, ed. *Relationship of Information to the Design and Function of the Library,* Report of a Conference Held at Hampshire College, Amherst, Massachusetts, January 25-26, 1968, (Amherst: Hampshire College, The Library and Information Transfer Center, 1969), p. 1. (Available from ERIC, no. ED 026 548.)

88. *Ibid.*, pp. 5-6.

89. *Ibid.*, p. 11.

90. *Ibid.*, p. 12.

91. T.N. Dupuy, *Ferment in College Libraries; The Impact of Information Technology,* (Washington, D.C.: Communication Service Corporation, 1968) and *Modern Libraries for Modern Colleges; Research Strategies for Design and Development,* (Washington, D.C.: Communication Service Corporation, 1968).

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